

## ABSTRACT

A method for catalytically reducing nitrogen oxide compounds ( $\text{NO}_x$ , defined as nitric oxide,  $\text{NO}$ , + nitrogen dioxide,  $\text{NO}_2$ ) in a gas by a material comprising a base metal consisting essentially of  $\text{CuO}$  and  $\text{Mn}$ , and oxides of  $\text{Mn}$ , on an activated metal hydrous metal oxide support, such as  $\text{HMO:Si}$ . A promoter, such as tungsten oxide or molybdenum oxide, can be added and has been shown to increase conversion efficiency. This method provides good conversion of  $\text{NO}_x$  to  $\text{N}_2$ , good selectivity, good durability, resistance to  $\text{SO}_2$  aging and low toxicity compared with methods utilizing vanadia-based catalysts.